

IMPROVED OPTICAL FIBER CABLES WITH COUPLED ENCASEMENT DESIGN

Related Applications

This application claims priority of application Serial No. 10/420,309, filed 04/22/2003 and application Serial No. 10/706,585, filed 11/12/03.

Field of the Invention

This invention relates to optical fiber cables having improved optical transmission characteristics. More particularly, it relates to lightwave transmission cable structures, and methods for their manufacture, in which optical fibers are independently suspended in a coupled encasement to reduce bending losses.

Background of the Invention

High capacity lightwave transmission cables frequently comprise multiple optical fibers organized in a ribbon or bundled fiber configuration. Conventional bundled fiber cables typically have two or more optical fibers randomly organized at the cable core. In an effort to increase the optical fiber density and space efficiency, optical fiber ribbons were designed. In this description, optical fiber ribbons are considered as a species of an optical fiber bundle wherein the fibers are more precisely organized. Optical fiber ribbons are made by arranging two or more optical fibers side-by-side and coating or fusing the optical fibers to bind them together in a single planar array. One or more optical fiber ribbons may then be cabled in a single cable for high capacity optical transmission systems. Where more than one ribbon is used, an efficient arrangement is to stack the optical fiber ribbons, and apply a cable jacket to surround and protect the stack. The stack typically has a rectangular cross section. An advantage of stacked optical fiber ribbon cables is that the individual optical fibers remain organized